ABSTRACT OF THE DISCLOSURE

In a low power satellite broadcasting system, recovery of weak received signals is facilitated by combining a highly efficient compression technique such as Advance Audio Coding (AAC) used in MPEG-4 with relatively low rate coding and error correction techniques such as Recursive Systematic Convolutional Turbo Coding with Forward Error Correction (FEC).   These techniques are further combined with signal spreading techniques such as Direct Sequence Spread Spectrum Code Division Multiple Access (DSSS CDMA) or Coded Orthogonal Frequency Division Multiplex (COFDM) to spread the signal over a large frequency range for uplink, there permitting multiple users to share the same spectrum while avoiding interference with others, and also mitigating frequency selective fading and multipath. Recovery of the relatively weak signals may be further facilitated by the use of low noise amplifiers and conformal retrodirective phased array antennas, and by broadcasting the same information over two time-delayed channels or from two satellites, adding further redundancy in order to eliminate dropouts.